

al. report that "Growth in cellular airtime also has been substantial, although it has been slower than the growth in number of subscribers because later subscribers have tended to use the service less intensively than earlier adopters" (Stanley M. Besen, Robert J. Lerner, and Jane Murdoch, "The Cellular Service Industry: Performance and Competition," Charles River Associates, 1992, at 1).

2. Pricing

46. The real prices of cellular service, adjusted for inflation, declined during each portion of the past decade for which I am aware of systematic studies. Besen *et al.* (at 2) report that on average in the ten largest cellular service areas real prices for access and 250 minutes per month of prime time use declined by 38 percent during 1983-1991. Another study reports that on average real prices for 150 minutes of air time per month declined by 27 percent or more during 1985-91 in the top 30 cellular markets (U.S. General Accounting Office, *Telecommunications: Concerns About Competition in the Cellular Telephone Service Industry*, 1992, at 22-24). Hausman (at 13) reports that real prices declined about 10-12 percent per year during 1987-92. In New York, the Public Service Commission found that "On a broad basis, the declines in revenues per access number and revenues per airtime minute indicate that overall average prices are declining" (NYPSC Petition at 8). At the same time, customers have benefited from increasing service areas.

47. In a study using data for 1989 and 1991, Hausman found that prices of cellular service were not lower in states that regulated those prices than in states that did not regulate them. He found that prices were 5 to 16 percent higher in states that required advance notice tariff filings for price changes (Hausman at 10).

48. The fact that landline rates are much lower than cellular rates (NYPSC Petition at 8) says nothing about the reasonableness of cellular rates. At most, this may suggest that landline and cellular services are not in the same antitrust product market, but that does not suggest that the

markets in which cellular services are sold are not competitive. In fact, to be conservative, for the purposes of my competitive analysis I assumed in ¶15 that landline and CMRS services are not in the same antitrust product market.

49. Evidence on the price elasticity of industry demand for cellular service shows that cellular prices have not been at monopoly levels. An industry demand curve for cellular service measures the total demand for services from all cellular providers in a market, as opposed to the demand for the services from just one provider. The price elasticity of demand at a point along a demand curve measures how responsive the quantity demanded is to a change in price. If the price elasticity of demand is equal to one, then a one percent increase in price leads to a one percent reduction in quantity demanded. This implies that total revenue (price times quantity) is not changed by a small price increase. If the price elasticity is less than one, a one percent increase in price leads to a reduction in quantity demanded of less than one percent. This implies that total revenue will increase if price is increased. It is common for an industry demand curve to be characterized by a price elasticity of demand of less than one at low price levels and for the elasticity of the curve to increase as the price level is increased.

50. A price elasticity of less than one is consistent with competitive pricing and inconsistent with monopoly pricing. Hausman concluded that cellular systems typically operated at a point along the industry demand curve for cellular services at which the price elasticity of demand was substantially less than one (Hausman at 14). Hausman's finding implies that cellular systems were charging prices substantially below the monopoly level. This can be demonstrated as follows: If they had charged higher prices, given an elasticity of demand of less than one they would have increased their revenues (see ¶49). They would also have sold less output, and this would have enabled them to reduce their costs. Thus, a higher price would have increased profits both by increasing revenues and reducing costs. From this Hausman infers that cellular suppliers were not colluding to raise prices to the monopoly level.

51. The NYPSC argues that growth in use in cellular service is evidence that the service is essential to consumers (NYPSC Petition at 4, 12). I presume that by "essential" the NYPSC means that the industry demand curve for cellular service is inelastic with respect to the price of cellular service (and perhaps with respect to income as well). However, an inelastic industry demand curve does not provide a rationale for government regulation of an industry. Such a demand curve is compatible with highly elastic demand curves for individual firms and with competition. In fact, as I have explained in ¶50, the fact that cellular services are priced at a level at which demand is inelastic demonstrates that cellular providers are charging the monopoly price.

3. Innovation

52. In addition to declining real prices, cellular systems appear to have been performing well in other dimensions. There has been substantial technological change, permitting better service (for example, reduced interference and fewer blocked and dropped calls), new services (for example, information services, voice mail, personalized traffic routing, and data services such as remote monitoring), and higher capacity and lower costs (for example, digital conversion). There have been many innovations in pricing and other aspects of plans used to market services (for example, pricing plans aimed at high and low use customers and occasional callers, discounts for usage outside the central business district, and equipment discounts and free air time for new customers).

4. Rates of Return

53. As evidence that cellular systems have been exercising market power, the NYPSC argues that average rates of return on equity for cellular systems are unduly high compared to regulated returns for traditional landline companies and unregulated returns for high tech companies (NYPSC Petition at 8-9). In the NYPSC analysis, it is not clear how the rates of return on equity were computed (for example, whether they are measured as profits divided by the book value of equity) or whether they

were computed in a consistent manner. Whichever way they are computed, simple comparisons of the rates of return on equity do not shed light on whether companies are exercising market power.

54. Even if income and capital were properly measured, simple comparisons of rates of return are likely to be misleading. First, nothing relevant can be inferred from a high ratio of income to capital unless an industry is in long-run equilibrium, and it is safe to say that the cellular industry is not in long-run equilibrium. Second, even in long-run equilibrium, the ratio of income to capital will depend considerably on risk, which varies among industries. If rates of return are calculated based on equity capital rather than total capital, they will depend on the debt-equity ratio because this affects risk. Relatively high rates return can be expected where risks are high. Third, even in long-run equilibrium, what one expects to be equalized, other things equal, are *expected* rates of return, not the particular rates of return actually earned in any particularly year or set of years.

55. Furthermore, the NYPSC uses an incorrect measure of capital to compute the rates of return, so the rates are not appropriate for economic analysis. One should use replacement costs rather than book values, which are based on historic acquisition prices and accounting depreciation rules regarding the life of capital. Furthermore, one should include in the measure of capital intangible assets, the scarcity value of spectrum, and the capitalized value of start-up losses. New entrants into cellular service initially operate at a loss. These start-up losses should be capitalized and included in a firm's rate base.

56. The fact that capital should not be measured by the book value of equity should be clear from the fact that companies in industries such as cellular communications, cable television, and real estate commonly have a *negative* book value of equity because the book value of capital, based on historic acquisition prices and accounting depreciation rules, is less than the debt of the company (for examples, see Public Utilities Commission, State of Hawaii, "Petition," *In the Petition of Public Utilities Commission*,

State of Hawaii, For Authority to Extend Its Rate Regulation of Commercial Mobile Radio Services in the State of Hawaii, FCC PR File No. 94-SP1, Aug. 8, 1994, Ex. A-1 to A-8).

5. Consumer Complaints

57. The NYPSC suggests that there has been a large percentage increase in complaints about cellular companies (NYPSC at 9-10). However, since there are many possible explanations for complaints other than anticompetitive behavior, one cannot infer anticompetitive behavior from the existence of complaints. Furthermore, the existence of a large *percentage* increase in the number of complaints, when starting from a small base, does not imply a high absolute level of complaints. In fact, the NYPSC admits that the number of complaints remains "relatively low."

G. *Conclusions on Market Structure and Performance*

58. Regardless of concentration levels, there is no sound empirical basis for a conclusion that cellular systems have been exercising significant market power. The NYPSC's alleged evidence of anticompetitive behavior does not survive careful economic analysis. There is evidence of competition, and concentration will fall substantially over the next several years. Consequently, there is no empirical basis for believing that there is a problem with market performance that would warrant the substantial costs that would be imposed by regulation of CMRS pricing. Thus, the Commission should continue its historical forbearance from economic regulation of this industry and should deny the NYPSC petition.

IV. Effectiveness of Regulation

59. The NYPSC has presented no convincing evidence that its regulation of cellular carriers, or that of any state, has provided significant benefits to consumers.

60. Some states have been regulating cellular service prices while others have not. If price regulation benefited consumers, it should be possible

for the NYPSC to demonstrate that prices are just and reasonable in states with price regulation while they are not in states without such regulation, other things equal.

61. The NYPSC has not attempted to provide such an empirical justification for rate regulation. In fact, a study by Hausman comparing prices in regulated and unregulated states shows that state regulation of the CMRS industry has *not* reduced prices. Moreover, New York requires tariff filings, and Hausman found that prices were 5 to 16 percent higher in states that required advance notice tariff filings than in states that did not regulate prices (Hausman at 10). Thus, New York's regulation is unlikely to be making the industry's performance better and may be making it worse.

62. The ineffectiveness of state regulation of the cellular industry is not surprising. In many other industries regulation has not helped, and in fact has harmed, consumers. Winston recently examined evidence on the effects of deregulation of industries including airlines, railroads, trucking, and telecommunications. He found that in each of these industries consumers were better off after deregulation (Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," *Journal of Economic Literature*, Sept. 1993, at 1284).

63. In the period from about 1975 to 1984, the Federal government deregulated a number of industries on the basis of a consensus among scholars and policy makers that regulation, on the whole, failed to improve consumer welfare, and in many cases reduced it. Among the reasons for this conclusion was the fact that special interests were often over-represented in the regulatory policy-making process, compared to the consumer interest, making predictable but often specious arguments to protect their parochial interest in continuing regulation. Consequently, prices and services in regulated industries departed, often considerably, from those that would have prevailed in the markets that regulators had displaced. Even though those markets were only imperfectly competitive, their performance seemed likely to improve as a result of deregulation.

And so, on the whole, it did (Winston; Sam Peltzman, "The Economic Theory of Regulation after a Decade of Deregulation," *Brookings Papers on Economic Activity: Microeconomics*, 1989, 1-41; Roger G. Noll and Bruce M. Owen, *The Political Economy of Deregulation: Interest Groups in the Regulatory Process*, American Enterprise Institute, 1983, at 3-65).

V. Costs of Rate Regulation

64. State regulation of prices charged by CMRS providers would have no benefits. It would, however, result in substantial costs. First, regulated prices would inevitably be below the efficient level in many circumstances. This is inevitable because regulators simply lack the resources to determine what price levels are efficient, and they lack the resources to change regulated prices as cost and demand conditions change. Furthermore, regulators are likely to base regulated prices on faulty economic analysis. For example, the NYPSC appears to believe that prices should be set with reference to the book value of equity rather than replacement costs, including start-up losses and the scarcity value of spectrum. This would cause prices to be set at inefficiently low levels, would cause scarce resources to be wasted, and would harm consumers.

65. Price regulation also limits the ability of regulated firms to respond to changes in technology, cost and demand conditions, and deters new investments, quality improvements, introduction of new services, and entry by reducing returns on pro-competitive activities. The distorting effects of price regulations that limit returns on investments are likely to be greatest in industries such as CMRS that are characterized by rapid growth, technological change, and relatively high risk.

66. In industry after industry, regulation has restricted the introduction of new products and new sources of competition. For example, Commission regulations in the late 1960s and early 1970s delayed the growth of cable television (Owen and Wildman at 215). Other industries in which regulation was used to prevent or restrict competition include

international telecommunications, title insurance, surface freight transportation, and airlines (Owen and Braeutigam; Peltzman).

67. It is also important to remember that government regulations involve substantial administrative costs both for the industries being regulated and for the government.

VI. Implications of Authorizing Regulation

68. Both conceptually and empirically, the economic analysis in the NYPSC petition is very weak. This casts doubt on the ability of the NYPSC to carry out behavioral regulation in a way that would be in the public interest. If there were a justification for regulating rates, it would make no sense to regulate them based on the accounting rate of return on equity, which is the standard used in the NYPSC petition.

69. Although the NYPSC implies that what it has in mind is continuation of its current forms of regulation, there is no assurance that it would not engage in additional forms of regulation if its petition were granted. For example, the NYPSC has revealed an interest in regulating roaming agreements and rates (NYPSC Petition at 10-11).

70. Differences in regulation among states may lead cellular firms to distort investment and innovation decisions. A cellular firm operating in more than one state might invest and innovate sooner in states that do not have rate regulation than in states that do. Consumers in regulating states may suffer from these distortions. Furthermore, regulations in some states are likely to have adverse spillover effects in other states that do not regulate. For example, price controls in some states are likely to reduce the returns to improvements in service that would make sense only if they were put into effect in all states in which a carrier operates, and thus such improvements are likely to be deterred or delayed. This outcome does not appear to be intended by Congress.

VII. Conclusion

71. For the reasons given above, I have concluded that decisions on pricing of CMRS services are best left to the market rather than being subjected to state regulation. There is no persuasive evidence that government price controls would have significant benefits, but they would have substantial costs. Approval of continuing state price regulation would therefore be likely to harm consumers. Neither cellular systems nor other CMRS providers have unilateral market power. Regardless of concentration levels, conditions in markets for CMRS are not conducive to successful collusion, and there is no persuasive evidence that CMRS providers have been exercising significant market power. To the contrary, there is evidence of sufficient competition to warrant reliance on market forces rather than government regulation. Moreover, concentration will fall substantially over the next several years. Consequently, there is no empirical basis for believing that there is a problem with market performance that would warrant regulating CMRS pricing. Overall, I conclude there is no basis for the Commission to alter its conclusion that competition is sufficient to justify forbearance with regard to regulation of CMRS pricing. Nothing about New York requires an exception to these conclusions.

I declare under penalty of perjury that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read 'Bruce M. Owen', is written over a horizontal line.


Bruce M. Owen

September 19, 1994

ECONOMISTS INCORPORATED

CERTIFICATE OF SERVICE

I, Cherie R. Kiser, do hereby certify that a copy of the foregoing Opposition of McCaw Cellular Communications, Inc. was served on the following by either first class mail, postage prepaid or by hand delivery this 19th day of September 1994.


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